



MATERIAL SAFETY DATA SHEET

Product #: Gamma Dodecalactone 10% in TEC

1 Materials and dilutions supplied free of charge for Educational Purposes to mature students studying "The Art and Technology of Perfumery" by distance learning.

PerfumersWorld. Emergency Phone Number: International Access Code + (66 2) 998 0080

SECTION 1. CHEMICAL IDENTIFICATION - SAMPLES FOR ANALYSIS SAMPLES OF THE FOLLOWING AROMA MATERIALS FOR GCMS ANALYSIS

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS Aroma Chemicals and Essential Oils or dilutions of these in Dipropylene Glycol or BenzylAlcohol. DO NOT CONTAIN ETHYL ALCOHOL , DIETHYL PHTHALATE OR VOLATILE SOLVENTS

SECTION 3. HAZARDS IDENTIFICATION NFPA HAZARD CLASSIFICATIONS HEALTH = 1 FLAMMABILITY = 3 REACTIVITY = 0 LABEL PRECAUTIONARY STATEMENTS U.S. HAZARD LABELING May be irritating to skin and eyes.

SECTION 4. FIRST-AID MEASURES INHALATION EXPOSURE: Normal inhalation is unlikely to produce adverse reactions. In the event of adverse reactions. Remove to fresh air. Give oxygen and call a physician. EYE CONTACT: Flush with water for 15 min. Seek medical help if necessary. SKIN CONTACT: Wash area well with water. Seek medical help if necessary. INGESTION: Administer water and call a physician or poison control center immediately. Do not induce vomiting.

SECTION 5. FIRE FIGHTING MEASURES EXTINGUISHING MEDIA CO2, FOAM, DRY CHEMICAL SPECIAL FIRE FIGHTING PROCEDURES Use standard fire fighting procedures. UNUSUAL FIRE AND EXPLOSION HAZARDS: None.

SECTION 6. ACCIDENTAL RELEASE MEASURES STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED Standard absorbents can be used. WASTE DISPOSAL METHO: Incineration or sanitary landfill in accordance with local, state, and federal regulations.

SECTION 7 HANDLING AND STORAGE HANDLING Apply according to good manufacturing and industrial hygiene practices with proper ventilation. Do not drink, eat or smoke while handling. Respect good personal hygiene. STORAGE Store in a cool, well-ventilated area. FIRE PROTECTION Keep away from ignition sources and naked flame.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION RESPIRATORY PROTECTION: Usually not required VENTILATION: Mechanical (general) PROTECTIVE GLOVES: Rubber gloves EYE PROTECTION: Splash-proof safety glasses OTHER PROTECTIVE EQUIPMENT: Safety shower, eye wash

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES APPEARANCE: colorless to brown liquids ODOR DESCRIPTION: distinctive odours BOILING POINT: All greater than 150 C @ 25 mmHg VAPOR PRESSURE (20 C, mm Hg): Not found VAPOR DENSITY (Air = 1): 1 SPECIFIC GRAVITY @ 25C (water = 1): 0.8800 TO 1.1500 SOLUBILITY IN WATER: Insoluble in water; soluble in alcohol. FLASH POINT (CC): >100 C

SECTION 10. STABILITY AND REACTIVITY INCOMPATIBILITIES CONDITIONS TO AVOID: No materials present special reactivity hazards. MATERIALS TO AVOID: Strong oxidizing agents HAZARDOUS COMBUSTION PRODUCTS CO, CO₂, water

SECTION 11. TOXICOLOGICAL INFORMATION ACUTE EFFECTS Most likely route of entry is through the skin. Full strength may be irritating to skin and eyes. THRESHOLD LIMIT VALUE (TLV): Not established OSHA PERMISSABLE EXPOSURE LIMIT (PEL): Not established LISTED AS CARCINOGEN BY NTP, IARC, OR OSHA?: NO

SECTION 12. ECOLOGICAL INFORMATION GENERAL Prevent contamination of soil, ground- and surface water.

SECTION 13. DISPOSAL CONSIDERATION WASTE DISPOSAL METHOD: Incineration or sanitary landfill in accordance with local, state, and federal regulations.

SECTION 14. TRANSPORT INFORMATION Class Pack Group Sub. Risk UN No. IMDG Page Road(U.S.-DOT): not regulated. Air (IATA): not regulated. Sea (IMDG): not regulated.

SECTION 15. REGULATORY INFORMATION EUROPEAN INFORMATION There were no toxicological studies in the published literature to assign risk and safety phrases. REVIEWS, STANDARDS, AND REGULATIONS EPA TSCA SECTION 8(B) CHEMICAL INVENTORY LISTED AS CARCINOGEN BY NTP, IARC, OR OSHA?: NO

SECTION 16. OTHER INFORMATION DISCLAIMER OF WARRANTIES AND LIMITATION OF LIABILITY THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED REGARDING ITS CORRECTNESS. PERFUMERS WORLD MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE WITH RESPECT TO THE INFORMATION OR THE PRODUCT TO WHICH THE INFORMATION REFERS. PERFUMERS WORLD SOLE AND EXCLUSIVE LIABILITY WITH RESPECT TO PRODUCTS PROVIDED TO STUDENTS FOUND TO BE DEFECTIVE OR NONCONFORMING SHALL BE THE REPLACEMENT OF SUCH PRODUCTS WITHOUT CHARGE OR REFUND OF THE PURCHASE PRICE UPON THE RETURN OF SUCH PRODUCTS IN ACCORDANCE WITH PERFUMERS WORLD INSTRUCTIONS. THIS REMEDY, IN THE MANNER PROVIDED HEREIN, SHALL CONSTITUTE FULFILLMENT OF ALL LIABILITIES OF PERFUMERS WORLD, WHETHER BASED ON CONTRACT, TORT OR OTHERWISE WITH RESPECT TO, OR ARISING OUT OF THE PRODUCTS. PERFUMERS WORLD SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, CONTINGENT OR SPECIAL DAMAGES. IN THE EVENT OF EMERGENCY YOU MAY CONTACT

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General Safety Instructions

- Preparation - study safety data thoroughly so you know it **BEFORE** an accident occurs
- Keep materials MSDS (Material Safety Data Sheets) close at hand
- Kits use concentrated materials and should only be used by persons able to read and understand the instructions.
- Keep all materials out of the reach of children
- Do not eat or drink any material or use in foods
- If you get a material on your skin or eyes, wash off immediately. See below for more specific instructions
- Prompt action will help prevent adverse reactions later
- Keep fire fighting equipment suitable for oil fires in reach of work area

ADVICE TO WASH OFF SKIN : WIPE OFF EXCESS AND USE UNDILUTED HAND DISHWASHING LIQUID (L.O.C., of Amway, is recommended) Rub into the area with essential oil or chemical for a few seconds until thoroughly mixed. Wash off with copious amounts of water. Alcohol will assist to remove materials but will irritate eyes or sensitive areas and is flammable.

ADVICE TO WASH OUT OF EYES : Most perfume companies recommend copious flushing with plain water, however perfumery materials are oily and resist being washed out. We recommend room temperature plain pasteurized or UHT milk (NOT sweetened or flavored). Milk is an emulsion with a fat content that helps to dissolve oils. Keep a small carton of plain UHT milk and an eyeglass near your mixing area. Use the milk as many times as necessary to flush the material out without making the eye sore. Then use plain clean water several times to wash the milk out completely.

ADVICE IN THE EVENT OF INGESTION-EATING : Wash out excess from the mouth and throat by spitting out and gargling with milk or water - always spitting out. Lukewarm is better than cold. General medical advice now is not to induce vomiting. Contact a hospital immediately - seeking advice on the telephone before leaving if this is practical. Go to the 24hr Casualty or Poisons section taking the empty bottle with you for material identification.

DO NOT DELAY - CONSULT A MEDICAL PRACTITIONER